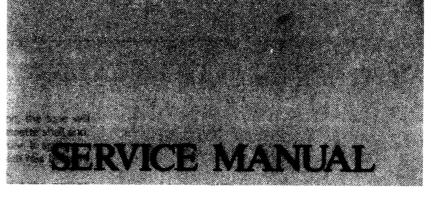
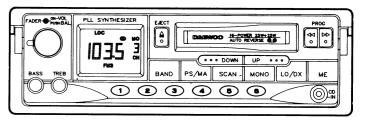
DAE	WO	O
-----	----	---



# \* AKF-9255 (without Dolby, AMS) QUARTZ PLL SYNTHESIZER CASSETTE RECEIVER



#### SPECIFICATIONS

Audio Section	
Maximum outputZ power	25 watts per channel into 4 ohms (1 kHz)
Rated output power	
Load impedance	4 ohms
Controls	
BASS/TREBLE	± 10 dB at 100Hz/10 kHz
Tape section Track format Tape speed Wow/flutter Signal to noise ratio	4.8 cm/sec. 0.15% nominal (WRMS)
Tuner section (FM): AKF-9255 Tuning range	87.5 to 107.9 MHz at U.S.A 87.5 to 108.0 MHz at Europe
Usable sensitivity (30 dB S/N	1)

Mono . . . . . . . . . . . 10 dB $\mu$  (3.2 $\mu$ V/75 ohms) Signal to noise ratio (at 60 dB $\mu$ )

..... 60 dB

General	
Power requirements	DC 12.0V/Rated; 14.4V
	(Usable: 10.8-15.6V)
	negative ground
Current consumption	7A Maximum
Dimension (W×H×D)	188 × 58 × 186mm
	$7^{-3}/8'' \times 2^{-1}/4'' \times 7^{-5}/16''$
chassis size	182 × 53 × 153 m m
	$7^{-3}/16'' \times 2^{-1}/8'' \times 6''$
Weight (net)	1.8 Ka

Tuning range ..... 530 to 1710 KHz at U.S.A.

522 to 1620 KHz at Europe

(AM): AKF-9255

Usable sensitivity (20 dB S/N)

 Design and specifications subject to changes without notice for improvements.

# **CAUTION**

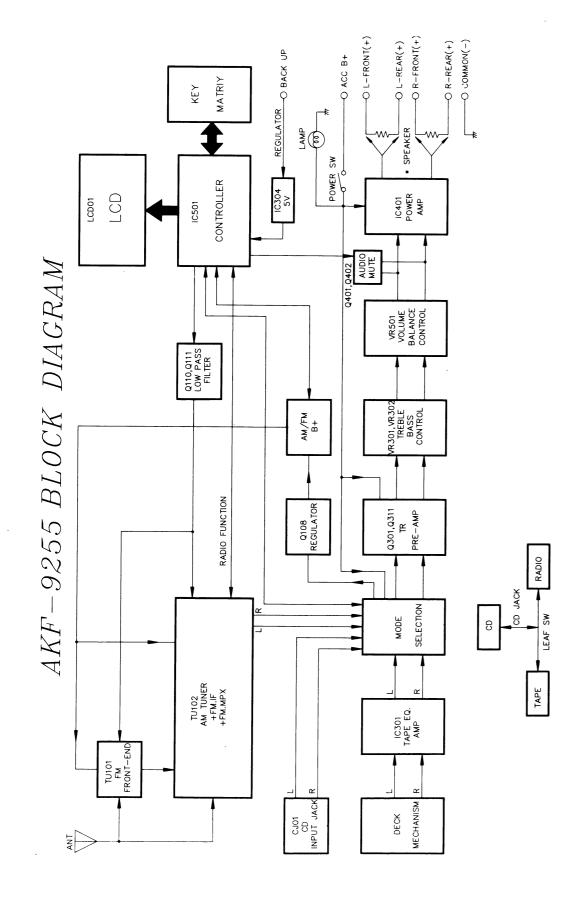
 Do Not Use Endless Tapes
 If an endless tape is used with this unit, the tape will not be wound up properly inside the cassette shell and, as a result, it will not be possible to use it again. Also, this unit cannot eject a tape which has been inserted with its reverse side facing up. (At this case, refer to How to hook out the endless

tapes.)

2. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors.

1

# 1. BLOCK DIAGRAM (AKF-9255)

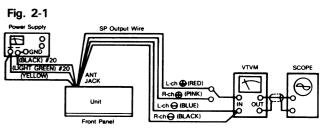


# 2. ADJUSTMENT

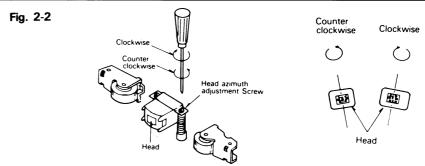
### 2-1. Tape Adjustment

Note: 1. Clean the playback head before adjustment.
2. Prepare the test tape MTT-114
3. TREBLE, BASS & BALANCE ...... Mechanically center position

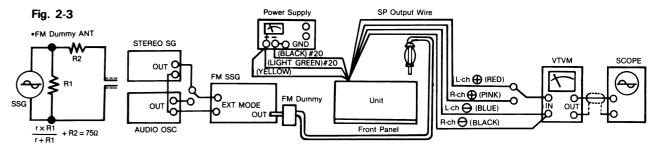
4. Connections are shown in Fig. 2-1.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT
1.	Head azimuth adjustment	MTT-114	L or R-ch SP Output Wire VTVM & Scope	Playback MTT-114	Turn the azimuth screw to obtain maximum output on both FWD and REW PLAY. (See Fig. 2-2)

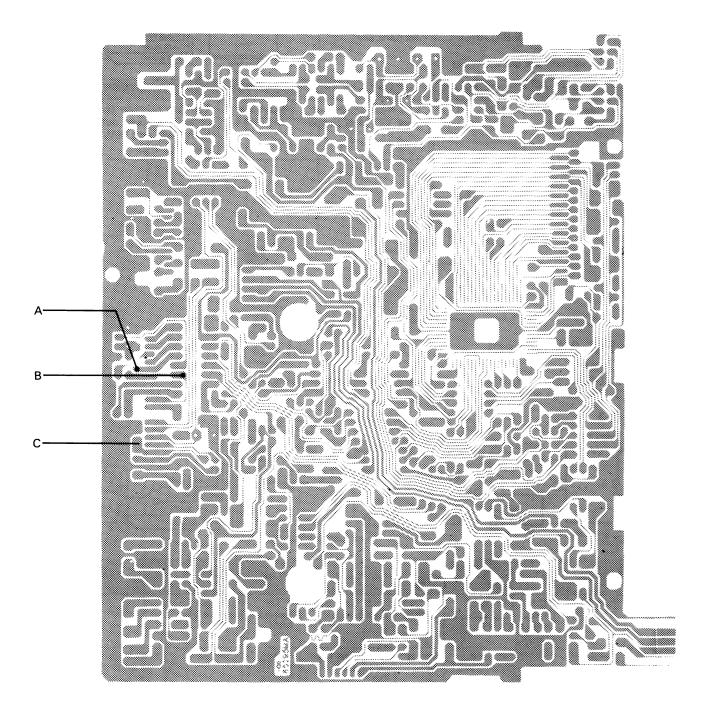


## 2-2. FM Adjustment



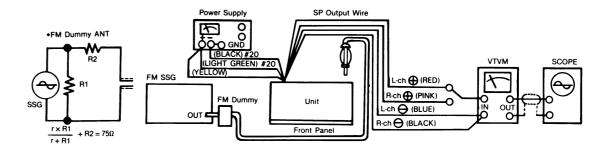
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT ADJUST ADJUST FOR RE		REMARK		
O'L	0000001	FROM	TO	WILASONE COTTO	AD3031	ADJUSTION	NEWANK	
1.	IF Coil Adj.	98.1 MHz ANT Input 12dBμ, 1 kHz (100% MOD., FM SSG)	ANT Jack & Ground	L-ch SP Output wire VTVM & Scope	IFT Coil Front-end, TU101	Max. Adjust. Above and Below		
2.	Discriminator Coil adj.	98.1 MHz ANT Input 60dBµ. 1KHz(100% MOD.), NO. MOD., FM SSG.	Same as above	Between Point 13 pin and 17 pin of ICO1, Tuner PC Board DC Volt Meter	T105 (IC01, Tuner PC Board) See Fig.2-6	DC 0V±30mV	Between point 13 pin and 17 pin of ICO1.(Across the R13)     ADJ T05 until the indication of DC volt meter becomes OV.	
3.	Separation Adj.	98.1 MHz ANT Input 60dBμ, 1KHz(100% MOD.)	Same as above	L-ch SP Output Wire VTVM & Scope		Read this indication on VTVM	Adjust RV 02 to have maximum seperation	
		FM SSG. Pilot 19KHz (10% MOD.), STEREO SG.		R-ch SP Output Wire VTVM & Scope	RV 02 (IC01 Tuner PC Board) See Fig. 2-6	Confirm L-CH-R-CH	of L/R.	
4.	SD Adji.	98.1 MHz ANT Input 25dBµ, 1KHz (30%, MOD.) FM SSG.	Same as above	Between point A & Ground of Main Board DC Volt Meter See Fig. 2-4	RV03 (IC01, Tuner PC Board) See Fig.2-6	DC 2.5V ± 1V	Adjust RV03, applying DC5V to point B of main Baord. See Fig. 2-4	

Fig. 2-4 Pattern Side of MAIN P.C. Board



### 2-3. AM Check and Adjustment

Fig. 2-5

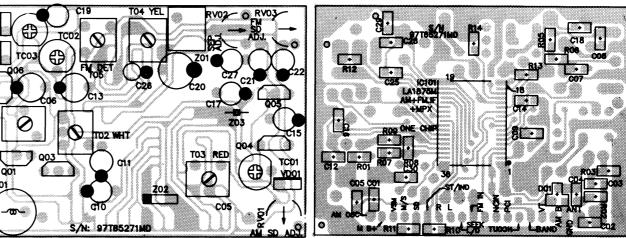


See Fig. 2-6 FEED SIGNAL STEP SUBJECT MEASURE OUTPUT ADJUST FOR REMARK FROM TO LOW END LOW END FREQ. L or R-ch SP Output T03 MAX. Output Repeat procedures as stated in subject ANT input, Tuner PC Tuning Adj. AM SSG. VTVM & Scope Board in step 1 & 2 2. HIGH END HIGH END FREQ. TC01 Between point C & 8.0V ANT input Ground of Main Board Tuner PC AM SSG. Tuning Adj. DC Volt Meter Board 620 kHz ANT Input, 30 dBμ 400Hz (30% MOD.), L or R-ch SP Output 620 kHz ANT Jack T01, T02, Max. Output Repeat procedures (10 kHz Step) & Ground T04 Tuner as stated in subject RF Adj. VTVM & Scope PC Board in step 3 & 4 1490 kHz ANT Input 30dBμ 1490 kHz TC02, TC03 Same as Same as above Max. Output (10 kHz Step) Tuner PC 400Hz (30% MOD.), Board SD Adj. 1010 kHz RV01 Between point A & DC 2.5V ± 1V Adjust RV01, applying Ground of Main Board ANT Input 35dBµ Tuner PC DC 5V to point B of 400Hz (30% MOD). DC Volt Meter Board Main Board See Fig. 2-4

Fig. 2-6 AKF-9255 TUNER P.C. Board.

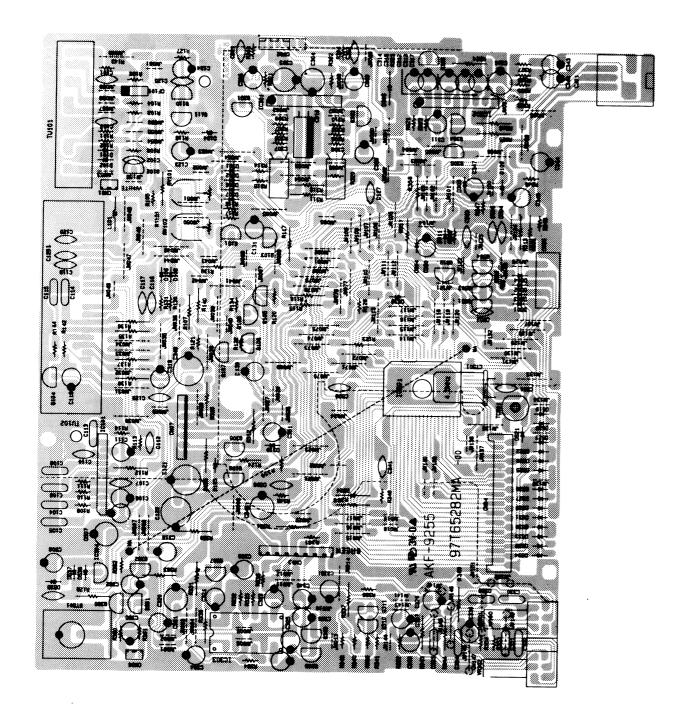
1) Top Pattern + Top Parts

2) Bottom Pattern + Bottom Parts



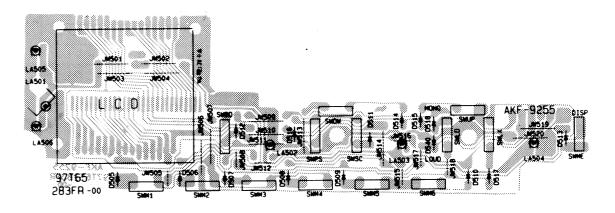
# 3. PARTS LOCATION ON BOARD

# 3-1. Main Board (Parts Side): AKF-9255



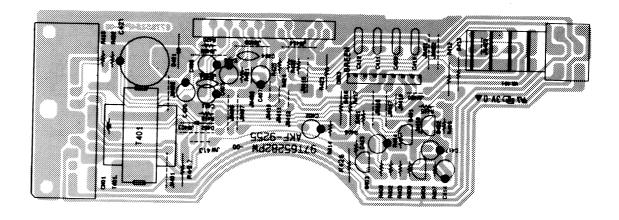
## 3-2. Front P.C. Board

PARTS SIDE



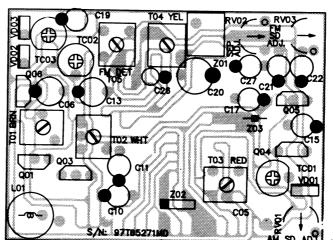
### 3-3. POWER P.C. Board

PARTS SIDE

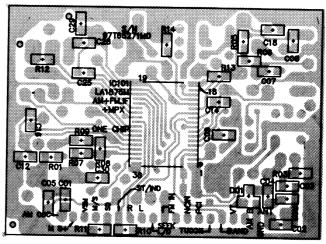


# 3-4. TUNER P.C. Board.

1) Top Pattern + Top Parts

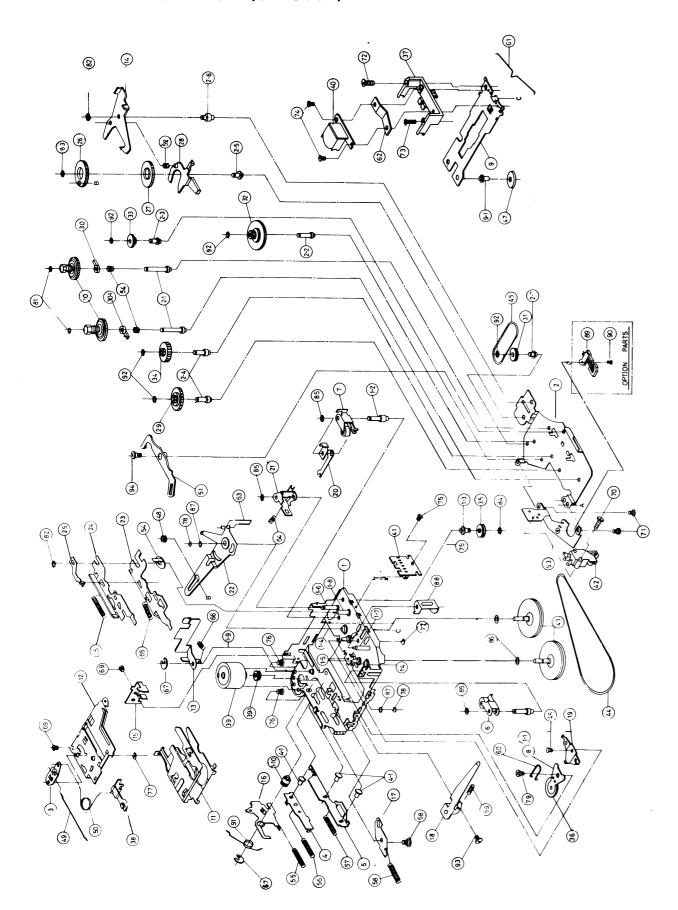


### 2) Botton Pattern + Bottom Parts



# 4. EXPLODED VIEW and PARTS LIST

# 4-1. DECK MECHANISM (SM-909P)



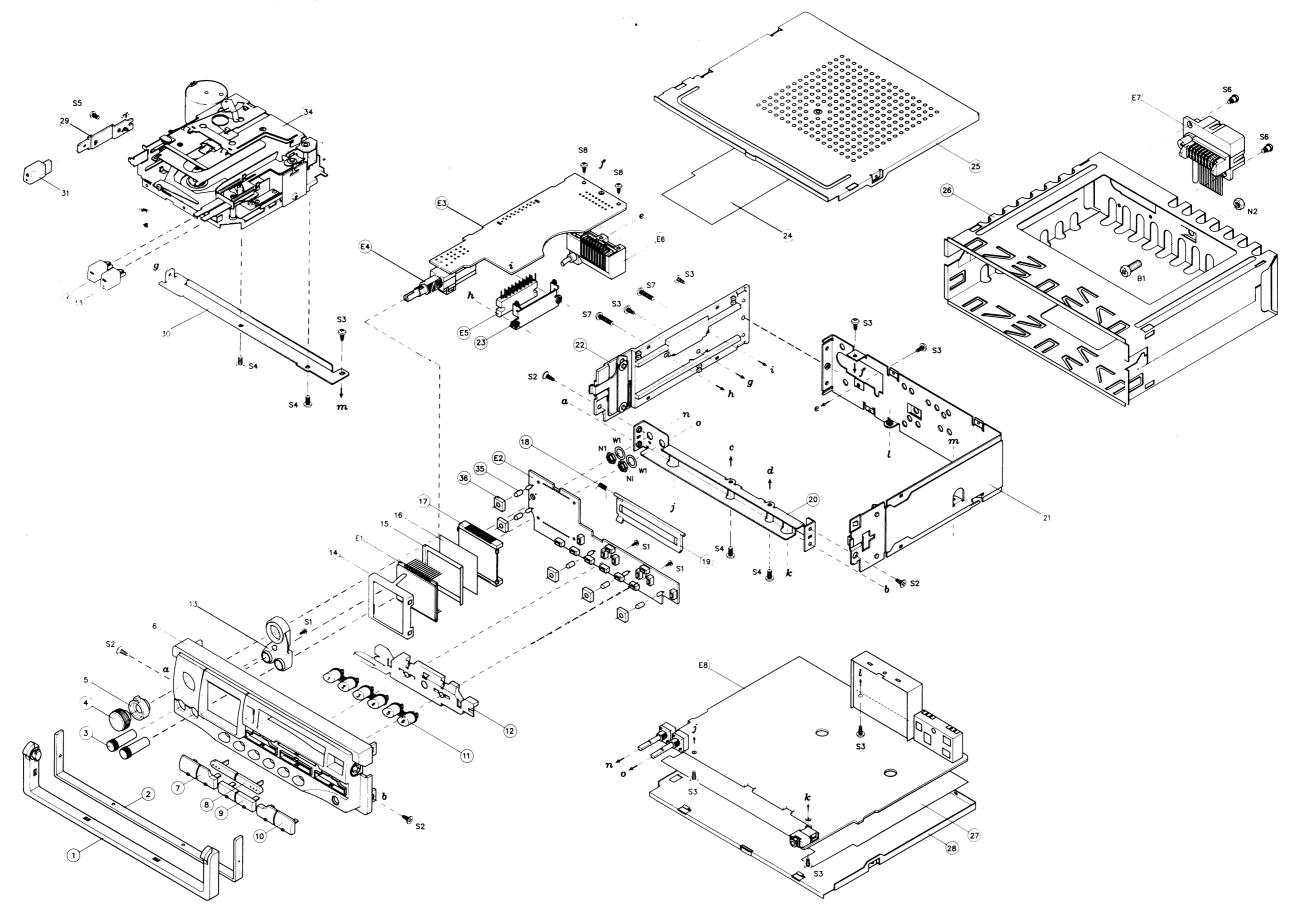
# SM-909P (N) PARTS LIST

NO.	STOCK NO.	DESCRIPTION	REMARK	QTY
1	R416A1	ASS'Y MAIN CHASSIS-2		1
1-1	0930	SHAFT PINCH ROLLER (R)		1
1-2	0929	SHAFT PINCH ROLLER (L)		1
1-3	0922	SHAFT MIDDLE PULLEY		1
1-4	R101BO	METAL CAPSTAN (B-2)		2
1-5	0920A0	PIN GUIDE (B)		2
1-6	9928	SHAFT F.R. LOCK LEVER		1
1-7	1694	SHAFT F.R. LEVER "B2"		1
1-8	3194A0	SHAFT NOVEMENT LEVER (D)		1
1-9	RF09A0	SHAFT NOVEMENT ARM (B)		1
1-10	RF10A0	SHAFT CASSETTE LOCK LEVER		1
2	R406C1	ASS'Y CHASSIS GRAR (P)		1
2-1	RP05A0	SHAFT REEL-2		2
2-2	RP01A0	SHAFT FEED GRAR A-2		1
2-3	RP02A0	SHAFT FEED GEAR B-2		1
2-4	RF03A0	SHAFT FEED GEAR C-2		2
2-5	RF06A0	SHAFT PROGRAM CAN-2		1
2-6	RF07A0	SHAFT PROGRAM CAN LOCK LEVER		1
2-7	RF04A0	SHAFT DRIVING PULLEY-2		1
3	2365	ASS'Y EJECT LEVER (C)		1
3-1	RF11A0	SHAFT EJECT LEVER C-2)		1
4	2773	ASS'Y EJECT LEVER (A)		1
4-1	0942	SHAFT EJECT LEVER		3
5	R417B1	ASS'Y EJECT LEVER "B-3"		1
6	2003	ASS'Y PINCH ROLLER ARM (R)		1
7	2002	ASS'Y PINCH ROLLER ARM (L)		1
8	R409A1	ASS'Y PLAY ARM-2		1
9	R411B1	ASS'Y BASE HEAD-5		1
9-1	1961	SHAFT HEAD BASE "B2"		1
10	3109	ASS'Y REEL		2
11	RP23B0	HOLDER CASSETTE (B-2)		1
12	RP21B0	ARM HOLDER CHASSIS (B-2)		1
13	RP20A0	ARM NOVEMENT (B)		1
14	RI03A0	LEVER PG CAM STOP		1
15	RP24A0	GUIDE EJ LEVER (B-2)		1
16	RP19B0	LEVER CASSETTE LOCH (B-2)		1
17	RP26A0	LEVER HEAD SLIDE (C)		1
18	RP25A0	LEVER HEAD SLIDE (C)		1
19	RP01B0	LEVER PLAY IDLEY		1

NO.	STOCK NO.	DESCRIPTION	REMARK	QTY
20	0886A0	LEVER PROGRAM (B-2)		1
21	0699	LEVER F.R. LOCK		1
22	RP17B0	ARM PROGRAM (B-2)		1
23	0884A0	LEVER REV (B-2)		1
24	0883	LEVER FF		1
25	3247	LEVER PROGRAM (A4)		1
26	0918	CAM PROGRAM		1
27	0915	GEAR PROGRAM SENSOR CAN		1
28	0916	SENSOR P CAN		1
29	RJ07A0	GEAR FEED (D)		1
30	RI10A0	SENSOR REEL "C"		1
30-1	0907A0	SENSOR REEL "D"		1
31	RIO1A0	PULLEY DEIVING-2		1
32	RI01A0	GEAR FEED A-2		1
33	RJ05A0	GEAR FEED (B)		1
34	RJ06A0	GEAR FEED (C)		1
35	0913	PULLEY MIDDLE		1
36	0906	GEAR PLAY		1
37	3287	HOLDER GUIDE (B)		1
38	RI07A0	EJECTOR (B-2)		1
39		MOTOR		1
39-1		PULLEY MOTOR		1
40		HEAD P		1
41	2004	ASS'Y S/W SLIDE		1
42		SWITCH QUICK ACTION		1
43	1841	ASS'Y FLYWHEEL		2
44	0974	BELT MAIN 1TX122		1
45	0975	BELT T/U 1.2TX20.5		1
46	0041	SHAFT PLAY IDLER		1
47	RI06A0	ROLLER SHAFT HEAD BASE		1
48	0932	COLLAR PROGRAM CAM		1
49	0962	BOD EJECT		1
50	0966	SPRING EJECTOR		1
51	RIO2BO	LVR P SENSOR (C)		1
52	0949	SPRING SENSOR TENSION		1
53	2733A0	ANGLE SWITCH (b)		1
54	RS02B0	SPRING REEL D		
55	RS05A0	SPRING CASSETTE LOCK LEVER (B)		1
56	0957	SPRING EJECT LEVER		1

NO.	STOCK NO.	DESCRIPTION	REMARK	QTY
57	0965	SPRING EJECT LEVER (B)		1
58	RT07A0	SPRING HEAD SLIDE LEVER (B-2)		1
59	RS03A0	SPRING HEAD STOPPER		1
60	RT01A0	SPRING PLAY GEAR ARW (B)		1
61	RT02A0	SPRING PINCH ROLLER		1
62	3290A0	PANEL HEAD		1
63	0953	SPRING SWITCH		1
64	0958	SPRING LOCK LEVER		1
65	1835	SPRING F.R. LEVER		1
66	RS04A0	SPRING NOVEMENT ARM (B)		1
67	LW05A0	E-RING 0.4TI2X 6.5		2
68	RR01A0	SCREW COLLAR A-2		1
69	2765	SCREW CAMERA T/TITE M2X3		2
70	1160	SCREW BH T/TITE M2X8		1
71	0971	SCREW CAMERA M2X3		2
72	3289	SCREW PH M3X11		1
73	3288	SCREW CAMERA W/H M2X 9.8		1
74	1957	SCREW CAMERA M2I5		2
75	1176	SCREW BH T/TITE M2X3		1
76	3197	SCREW PH M2X2.7		2
77	0350	E-RING 0.4TX1.5X4		2
78	2239	E-RING (SPECIAL) 0.3TX1.5X3.2		2
79	3195	SCREW COLLAR (C)		1
80	RP40A0	PLATE PROGRAM		1
81	0960	P.S.W (C) 0.4TX1.6X3.2		2
82	2931	P.S.W. (C) 0.5TX1.6X5		2
83	0969	P.S.W. (C) 0.25TX1.2X4		1
84	0091	P.S.W (C) 0.35TX1.2X3.5		1
85	0966	P.S.W. (C) 0.3TX1.6IX5		3
86	0967	P.S.V 0.25TX1.85I5		2
87	2933	P.S.V 0.35TX1.85X3.2		2
88	1830	LEVER F.R. LOCE (B)		1
89		SWITCH NUTE	(OPTION)	1
90	3008	SCREW VH M1.7X4	(OPTION)	1
91	RT03B0	SPRING CASSETTE EJECT (B-2)	1.2,	1
92	0663	P.S.V (C) 0.25TX1.2X3		<u>'</u>
93	RR07A0	SCREW FH T/TITE 2X4		1
94	RR02A0	SCREW COLLAR B-2		1
95	RS07A0	SPRING REW LEVER		<u>'</u> 1
96	RP40A0	PLATE PROGRAM		<u>'</u>

# 5. EXPLODED VIEW and PARTS LIST



### **AKF-9255 PART LIST for EXPLODED VIEW**

NO.	PART CODE.	PART NAME
1	97T19015GD	HANDLE
2	97T1900910	HANDLE INNER
3	97T13337GD	KNOB ROTARY T
4	97T13217GD	KNOB ROTARY VR
5	97T13218GD	KNOB ROTARY F
6	97T14050GD	ESCUTCHEON
7	97T13314GD	KNOB TACT A
8	97T13313GD	KNOB TACT TUN
9	97T13316GD	KNOB TACT C
10	97T13315GD	KNOB TACT B
11	97T13316GD	KNOB TACT P
12	97T2207810	REFLECTION SW
13	97T2209710	REFLECTION VR
14	97T0909210	PLATE EARTH
15	97T9602410	SHEET LCD
16'	97T9601410	SHEET LCD
17	97T2204710	REFLECTION LCD
18	97T3003411	SPRING DOOR
19	97T18033GD	DOOR CASSETTE
20	97T0613830	CHASSIS FRONT
21	97T0614000	CHASSIS SIDE R AS
22	97T4404200	HEAT SINK AS
23	97T2418930	BRACKET IC
24	97T0913510	PLATE INSULATION TOP
25	97T0414530	COVER TOP
26	97T0414730	CASE DETACHABLE
27	97T0913410	PLATE INSULATION BTM
28	97T0414630	COVER BOTTOM

NO.	PART CODE.	PART NAME
29	97T2603630	LEVER EJECT
30	97T2421430	BRACKET DECK
31	97T13295GD	KNOB PUSH EJ
32	97T13294GD	KNOB PUSH REW
33	97T13293GD	KNOB PUSH FF
34	97T600550	DECK MECHANISM SM-909N
35	97T0400380	CAP LAMP
36	97T4209410	CUSHION LAMP
E1	97T0L030NE	LCD
E2	97TC041300	PCB FRONT AS
E3	97TC041100	PCB POWER AS
E4	5V1503664A	VR ROTARY
E5	1KIA6210AH	IC POWER
E6	97T88107A0	CONN AS 18P SOCKET
E7	97T88107BO	CONN AS 18P PLUG
E8	97TC041000	PCB MAIN AS
S1	7173200611	SCREW TT2 BIN 2×6
S2	7175300611	SCREW TT2 FLT 3×6
S3	7173300611	SCREW TT2 BIN 3×6
S4	7003300411	SCREW BIN M3×4
S5	7001260311	SCREW PAN M2.6×3
S6	_	SCREW COLLAR M3
S7	7003301211	SCREW BIN M3×12
N1	_	NUT HEX 6N-1-6
N2	7391500011	NUT HEX 6N-1-5
B1	97T3100310	BOLT HEX 6B-1-5 × 20
W1	_	WASHER PLAIN PW-1-6

# **6. PARTS LIST OF BOARD**

## 6-1 MAIN BOARD AS

LOC.	PART-CODE	PART-NAME	PART DESC
1000	97TC041000	PCB MAIN AS	AKF-9255CAV-S-D
BT501	C SUPER	5.5V 0.1F FZ	
B001	97T65282MA	PCB MAIN	(247×330×T1.6)/2 AKF-9255
CF101	W581GY5095	WIRE JUMPER	AWG22 1/0.65 SN 5 AUTO
CJ01	9766317710	JACK HEADPHONE	SHQ8935-01-440
CN01	97T88107A0	CONN AS	18P PCB TYPE SOCKET
CT501	5XA4R5000F	CRYSTAL QUARTZ	HC-18/U 4.500000MHz 50PPM
CW02	97T8813004	CONN AS	AWG28 4P 95MM
CW03	97T8813001	CONN AS	AWG24 8P 100MM
CW04	97T6208300	CONNECTOR HOUSING	00-8370-281-000-800
CW05	97T8813002	CONN AS	AWG26 70MM
CW07	97T8813003	CONN AS	AWG26 120/150MM
D101, 102	DKSS133	DIODE	ISS133
D103, 104	DKTZ10B	ZENER DIODE	MTZ-10
D105, 106	DKSS133	DIODE	ISS133
D109, 301 302	DKSS133	DIODE	ISS133
D304, 306	DKSS133	DIODE	ISS133
D307, 310	DKSS133	DIODE	ISS133
D501~504	DKSS133	DIODE	ISS133
D519, 520	DKSS133	DIODE	ISS133
D524	DKN4148	DIODE	KN4148
D527, 530	DKSS133	DIODE	ISS133
D532~538	DKSS133	DIODE	ISS133
IC301	1LA3161	IC TAPE EQ	LA-3161
IC304	1KIA78L005	IC REGULATOR	KIA78L005AP
IC501	IUPD171914	IC DTS	IUPA1719-014
L101	5LZ101K557	COIL INDUCTOR	LAL04TB-100K 100UH
Q101, 103	TZDTC143TL	TRBIAS	DTC143TL
Q104, 105	TZDTC143TL	TRBIAS	DTC143TL
Q106	TZTA1267Y-	TR	DTA1267Y
Q107	TZDTC143TL	TR BIAS	DTC143TL

LOC.	PART-CODE	PART-NAME	PART DESC
Q108	TZ2SD1862R	TR	2SD1862R
Q109~111	TZTC3199Y	TR	KTC3199Y
Q305	TZDTA143EL	TR BIAS	DTA143EL
Q310, 311	TZTC3199Y-	TR	KTC3199Y
Q312	TZDTC143TL	TR BIAS	DTC143TL
Q501~504	TZDTC125TL	TR BIAS	DTC125TL
RV101, 102	W581GY1005	W1RZ JUMPER	AWG22 10MM
TC501	CKSLIH150J	C CERA	SL50V 15PF J
TU101	97T7600800	TUNER FM CAR STEREO	KCF – 204 V K.E.C
VR301, 302	5V1503674A	UR ROTARY	V9M(6×5)G(PH2R) 50K×2 15A

## 6-2 TUNER BOARD AS

### AKF-9255

LOC.	PART-CODE	PART-NAME	PART DESC
12000	97TC040600	PCB TUNER AS	U.S.A AREA
B004	97T65271MD	PCB TUNER	(110×180×T1.6)/6
CW01	97T6208019	CONNECTOR WAFER	YF200A2-19
D01	DISU 234A	DIODE CHIP	ISV 234
IC101	1LA1875M	IC AUDIO ONE CHIP	LA1875M
Q01	TZSK927S	FET	2SK427S
Q03, 04	TZTC31999-	TR	KTC-3199Y
Q05, 06	TZRC114M	TR	KRC114M
RV01, 03	RU147104	R SEMI FIXED	100KB OHM B
TC01~03	97576501G0	TRIMMER	TZ03R200FR
T01	5LR224K744	COIL RF	191×0.07 7.5. 224UH K
T02	5LK224K745	COIL RF	97×0.07 7.5 224UH K
T03	5L0121K746	COIL OSC	120×0.08 7.5 120UH K
T04	5107AYW449	IFT AM	A7MC-K5716N-KR YW
T05	5107FBL450	IFT FM	292MEA-K5488E BL
VD01~0.3	DKV1235Z	DIODE VARACTOR	KV 1235Z
Z01	5PSFP450H-	FILTER CERA	SFP-450H
Z02	5PE107HS2A	FILTER CERA	SFE107MS2-A
Z03	5PB456F23-	FILTER MECA	CSB456F23

## 6-3 POWER BOARD AS

### **AKF-9255**

LOC.	PART-CODE	PART-NAME	PART DESC
11000	97TC041100	PCB POWER AS	AKF-9255CAV-S-D
B002	97T65282PW	PCB POWER	147×56×T1.6 AKF-9255
CN01	97T88107A0	CONN AS	AWG24 8P 100mm
CN03	97T8813001	CONN AS	AWG24 8P 100mm
D401, 402	DKN4002A	DIODE	KN4002A
IC401	1K1A6210AH	IC POWER	KIA 6210AH
Q401, 402	TZDTC323TL	TR	DTC323TL
T401	5LC102P226	COIL CHOKE	EI-24MM 1MH
VR401	5V1503664A	VR ROTARY	RK16525Z1-5N1211 50KA×2

### **6-4 FRONT BOARD AS**

LOC.	PART-CODE	PART-NAME	PART DESC
1300	97TC041300	PCB FRONT AS	AKF-9255CAV-S-D
B003	97T65283FR	PCB FRONT	(155×163×T1.6)/4 AKF-925)
CN04	97T6208200	CONNECTOR FFC	BNCDP-1.25-M-28-80(S = 3)
CN05	97T8813002	CONN AS	AWG 26 70MM
D505~ D518	DKSS133	DIODE	ISS133
LA502~ 506	97T82008BO	LAMP PILOT	14V 60MA D3.0
LCD	97TOLO30NE	LCD	HDL7342NEEA 38×33×289T
SWBD	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWDW	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWLD	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWLX	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWME	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWM1~ SWM6	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWPS	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWSC	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWUP	5S50101275	SW TACT	K-1P KPT-1107B 200G WH

## 6-4 DECK AS

LOC.	PART-CODE	PART-NAME	PART DESC
3000	97TM023900	DECK AS	AKF-9251CAV
CN02	97T8813004	CONN AS	AWG28 4P 95MM
CN07	97T8813003	CONN AS	AWG26 120/150MM
W001	W1498K3003	WIRE LEAD	AWG30 7/0.10 BK 3-30-3
W002	W149BK5003	WIRE LEAD	AWG30 7/0.10 BK 3-50-3
W003	W149BL5003	WIRE LEAD 1007	AWG30 7/0.1 BL 3-50-3
W004	W149YW5003	WIRE LEAD	AWG30 7/0.1 YW 3-50-3
W005	W149WH5003	WIRE LEAD	AWG30 7/0.1 WH 3-50-3
W006	W149PK5003	WIRE LEAD	SWG30 7/0.1 PK 3-50-3
00010	97T6006100	DECK MECHANISM	SM-909P

## 7. FUNCTION OF IC

### • UPD1719G-011 (014)

#### • Key Matrix Table

Input Pin Output Pin	K3 (59)	K2 (60)	K1 (61)	KO (62)
40	M1 (TP1)	M2 (TP2)	M3 (TP3)	M4
41	M5	M6		_
42	<del>-</del>	_	_	SCAN UP
43	BAND	_	_	<del>-</del>
44	ME (DISP)	MAN DWN	MAN UP	PSCAN AMEMO
45	LOUD	LOC. (TP4)	MONO (TP5)	_
46	AMS DOLBY	MTL	_	
47	<del>-</del>	_	_	DISP (RCL)
48	<del>_</del>	TP SET	RD SET	_
49	_	_	FF RL	

#### • Diode Matrix Table

Input Pin Output Pin	K3 (59)	K2 (60)	K1 (61)	KO (62)
50	AUTO 500	MUTE SEL	AUTO STP	ENNR 2
51	KAMS	KNR	KMTL	ENTRK
52	NOCLK	CLK DISP	FLASH	DIS AMEMO
53	ENFMIF	DIS AMIF	PR 102	PR 101
54	DIS FM3	ENMW 2	DISLW	M2S
55	AREA 3	AREA 2	AREA 1	ROON

#### 1. Band Selector

When (BAND) key is depressed, the reception band changes in sequence as shown below for each depression or for each request:

• FM1→FM2→FM3→MW1(AM1)→MW2(AM2): In case of AKF-9255

#### 2. Scan Tuning

SCAN A momentary depression causes automatic station-to-station search.

#### 3. Manual Tuning

A) UP, DOWN A momentary depression will tune to next channel, and continuous depression more than 0.5 second allows traversing up or down the entire band until the key is released.

#### 4. Preset Memory

A)ME

The tuning information is stored into the internal RAM by depressing ME key and then the desired memory key (M1 to M6) within 5 seconds from the time ME key was initially depressed. If any other key is depressed in this period, the ME function is canceiled.

B) M1 to M6 Six favorite stations can be recalled from internal RAM for each band. When it is switched from one band to the other, it will tune to "last-tuned-to station" on that band.

Each time a station is changed, the controller provides a signal to mute the radio.

#### 5. DIODE MATRIX DESCRIPTIONS

SYMBOL	DESCRIPTION							
	Switches used to set reception areas. The reception areas are set as shown below. For scanning frequency ranges in specific areas.							
	AREA 3 (D424)	ARE 2 (D423)	AREA 1 (D422)	AREA				
AREA 1 (D532)	0	0	0	Europe 1				
AREA 2 (D532)	0	0	1	Europe 2				
AREA 3 (D532)	0	1	0	U.S.A. 1				
	0	1	1	U.S.A. 2				
	1	0	0	U.S.A. 3				
	1	0	1	Australia, and Middle and Near East				
	1	1	0	Japan				
	1	1	1	Central and South America				
			1	,				

#### \* Receiving frequency, Channel spacing, Intermediate frequency

BAND AREA		BAND RECEIVING		INTERMEDIATE FREQUENCY	
	FM	87.000 to 108.00MHz	50kHz	10.7MHz	
Europe 1	MW	522 to 1620kHz	9kHz	450kHz	
	LW	144 to 281kHz	1kHz	450kHz	
U.S.A. 1	FM	87.5 to 108.0MHz	100kHz	10.7MHz	
0.5.A. 1	MW	530 to 1620kHz	10kHz	450kHz	
116 4 2	FM	87.5 to 107.9MHz	200kHz	10.7MHz	
U.S.A. 2	MW	530 to 1620kHz	10kHz	450kHz	
U.S.A. 3	FM	87.5 to 107.9	200kHz	10.7MHz	
0.3.A. 3	MW	530 to 1710kHz	10kHz	450kHz	
Australia and	FM	87.5 to 108.0MHz	100kHz	10.7MHz	
Middle eand Near east	MW	531 to 1602kHz	9kHz	450kHz	
Japan	FM	76.0 to 90.0MHzz	100kHz	– 10.7kHz	
Заран	MW	522 to 1629kHz	9kHz	450kHz	
Latin America	FM	87.5 to 108.0MHz	100kHz	10.7MHz	
Lauri Arrienca	MW	520 to 1620kHz	5kHz	450kHz	

	DESCRIPTION						
DISFM 3 ENMW 2 (D530) DISLW	Switches used to set reception bands.  The switches have the following functions.  DISFM 3:'1' disables the FM3 band.  ENMW 2:'1' enables the MW2 band.  DISLW :'1' disables the LW band in Europe.  The DISLW switch is invalid in areas other than Europe.  These switches set the reception bands in the following ways:						
	Area	DISFM 3	ENMW 2	DISLW	Reception band		
	7	0	0	0	FM1, FM2, FM3, MW, LW		
		0	0	1	FM1, FM2, FM3, MW1		
		0	1	_	FM1, FM2, FM3, MW1, MW2		
	Europe 1	1	0	0	FM1, FM2, MW, LW		
		1	0	1	FM1, FM2, MW1		
	·	1	1	_	FM1, FM2, MW1, MW2		
		0	0	_	FM1, FM2, FM3, MW1		
	Other	0	1	_	FM1, FM2, FM3, MW1, MW2		
	areas	1	0	_	FM1, FM2, MW1		
		1	1	_	FM1, FM2, MW1, MW2		
	-: Don't car	е					
M2S	Switch used to set the method of writing to preset memory. The switch sets the method as follows:						
		sets the me		ws:	,		
	M2S	sets the me		ws:	ng method		
		Write by	thod as follo	Writi	ng method  o M6 key during the 5-second		
	M2S	Write by	pressing N	Writi  M1 (TP1) t enabled wit	ng method  o M6 key during the 5-second		
	M2S 0	Write by memory Write by ME	pressing N write period pressing N key is inval	Writi M1 (TP1) t enabled wit M1 (TP1)	ng method  o M6 key during the 5-second  h ME  to M6 key for 2 seconds or longer.		
AUTO 500 (D519)	0 1	Write by memory Write by ME formation, so to set the enables the	pressing N write period pressing N key is inval ee the descriptunctions of	Writing Man UP and Man	ng method  o M6 key during the 5-second  h ME  to M6 key for 2 seconds or longer.  ME and M1 (TP1) to M6 keys.		
	M2S  0  1  For further in  Switch used This switch (seek) keys.	Write by memory Write by ME formation, so to set the enables the	pressing N write period pressing N key is inval ee the descriptunctions of MAN UP	Writing Man UP and Man	ng method  o M6 key during the 5-second  h ME  to M6 key for 2 seconds or longer.  ME and M1 (TP1) to M6 keys.  DWN keys to work as auto-tuning		
	M2S  0  1  For further in  Switch used This switch (seek) keys. This switch	Write by memory Write by ME  formation, so to set the enables the sets the  Manual to channel or	pressing N write period pressing N key is inval ee the descrip functions of MAN UP  MAN UP  MAN UP	Writing Man UP and Man	ng method  o M6 key during the 5-second  h ME  to M6 key for 2 seconds or longer.  ME and M1 (TP1) to M6 keys.  DWN keys to work as auto-tuning  AN DWN key functions as follows:		

SYMBOL	DESCRIPTION						
	Switches used to set a priority display, which recalls its original display if no action is taken within 5 seconds after the display is selected.  Priority display is set as shown below.						
	PR101 (D417)	PR102	Priority display	Description			
	0	0	None	The display is switched by the activation of DISP key and station selection keys (clock on display).  In the radio mode the frequency and clock displays appear alternately each time DISP key is pressed.  The frequency display appears when a station selection key is pressed while the clock is on display.  In the tape mode  DISP key is invalid.			
PR101 PR102	1	0	Frequency	the original display is recalled if no actiion is taken within 5 seconds after the frequency or " display are switched to the clock display with DISP key.  In the radio mode This display normally shows a frequency. It is switched to the clock display for 5 seconds each time DISP key is pressed. The display returns to show the frequency when DISP key is pressed or a station selection key is pressed again during the 5-second interval.  In the tape mode Clock display appears. (DISP key is invalid.)			
PR101 PR102	0	1	Clock	The clock display has priority when in the radio and CD modes.  In the radio mode The display normally shows the clock. It is switched to the frequency display for 5 seconds each time  DISP or a station selection key is pressed. The display returns to show the clock when  DISP key is pressed again during the 5-second interval.  In the tape mode  DISP key is invalid.			
	1	1	-	Inhibited			
	reception According the PSCA In the tape	band, an lly, even i N, VF, S e mode a	d preset me f the display K, ST, MON	ncy display refers to the scanning frequency range, emory display. is switched to the clock while receiving a radio frequency, NO, LOCAL and LOUD indicators can light. OUD, METAL, , AMS, "⊲" and. "⊳" indicators can in display.			

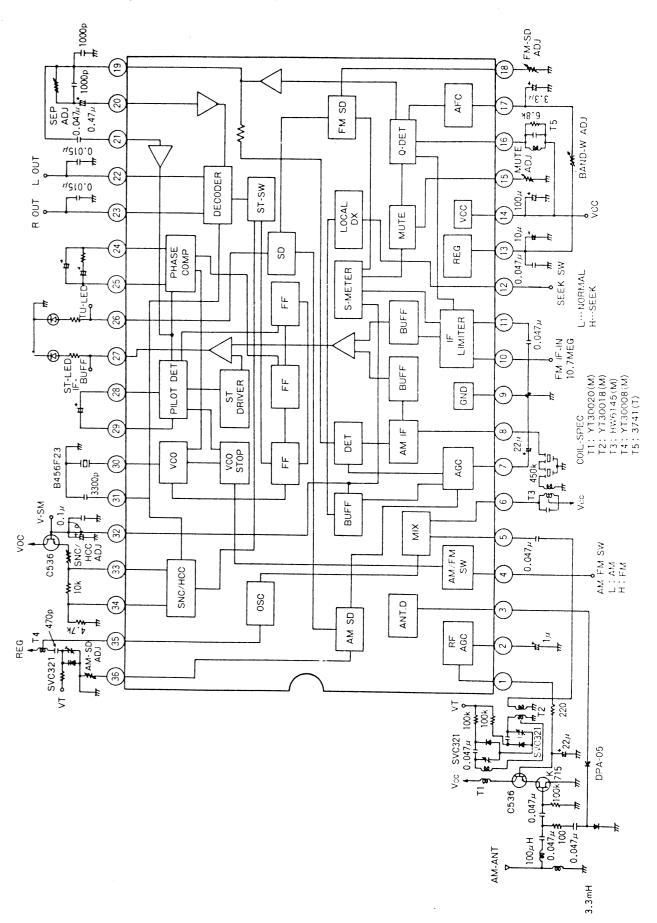
SYMBOL				DE	SCRIPTION							
ENTPK	The five ke	ys, M1	(TP1)	to M3	(TP3) ,	LOC (TP	4) and	MONO	) (TP5)			
KAMS KNR	can be shar	ed as tan	e functio	n kevs. T	he choice o	f the fun	ctions to	be share	ed is			
KMTL	can be shared as tape function keys. The choice of the functions to be shared is determined by the ENTPK, KAMS, KNR and KMTL switches.											
	ENTPK	KAMS	KNR	KMTL	M1	M2	Т3	LOC	MONO			
		(0415)	(0414)	(0413)	(TP1)	(TP2)	(TP3)	(TP4)	(TP5)			
		1	1	1	AMS		MTL					
		1	1	0	AMS	A 4-T1						
		1 1	0	0	AMS AMS	MTL						
		Ö	1	1	AIVIO	MTL						
		0	1	0								
		0	0	1	MTL							
		0	0	0								
		1	1	1	←Inhibited							
	'	1	1	0				AMS				
		1	0	1				AMS	MTL			
	1	0	0	0				AMS	MTL			
	'	0	1	Ö					14112			
		0	0	1				MTL				
		0	0									
NOCLK (D524)	as follows:	d to set t		bility of a	clock. The s	switch se	ets the cl	ock avail	ability			
NOCLK (D524)	as follows:	d to set t		ock availa		switch so	ets the cl	ock avail	ability			
NOCLK (D524)	as follows:	d to set t		ock availa		switch se	ets the cl	ock avail	ability			
NOCLK (D524)	as follows:  NOCLK  0  1	ock mode	CI	ock availa Yes No								
	as follows:  NOCLK  0  1	ock mode pation (40 d to set 1	c, an inpu DOnA. Ma	Yes No at low on AX.)	ability the CE pin							
NOCLK (D524)  CLKDISP	as follows:  NOCLK  0  1  In the no-cle power dissip	ock mode pation (40 d to set thour syste	c, an inpution of the clock em as fol	Yes No at low on AX.)	the CE pin o							
	as follows:  NOCLK  0  1  In the no-cle power dissiputed sets the follows:	ock mode pation (40 d to set thour syste	c, an inpu DOnA. MA the clock em as fol	Yes No at low on AX.) hour sys	the CE pin of term.							
	as follows:  NOCLK  0  1  In the no-cle power dissiphered sets the base of the control of the co	ock mode pation (40 d to set thour syste	c, an inpu DOnA. M/ the clock em as fol AM	No It low on AX.) hour systlows: Hour systl2-hour sy	the CE pin of tem.  tem.  tem  stem  M 12:00  M 11:59  stem							
	as follows:    NOCLK	ock mode pation (40 d to set the nour system)	c, an inpu DOnA. M/ the clock em as fol AM 1	ock availa Yes No It low on AX.) hour syst lows: Hour syst 2-hour sy 11:59→Pl 12:00←Pl 4-hour sy 23:59→0	the CE pin of tem.  tem.  tem  stem  M 12:00  M 11:59  stem	enables o	data back	up with	low-			
CLKDISP	as follows:    NOCLK	ock mode pation (40 d to set the nour system)	c, an inputon. Multiple clock em as fol AM 1 2. AM 1	ock availa Yes No It low on AX.) hour syst lows: Hour syst 2-hour sy 11:59→Pl 12:00←Pl 4-hour sy 23:59→0	the CE pin of tem.  tem.  tem.  tem.  12:00  M 11:59  stem. :00	enables o	data back	up with	low-			
CLKDISP	as follows:    NOCLK	ock mode pation (40 d to set the nour system)	c, an inputon. Multiple clock em as fol AM 1 2. AM 1	Yes No It low on AX.) hour sys lows: Hour sys1 1:59→Pl 12:00←Pl 4-hour sy 23:59→0 (:) indicat	the CE pin of term.  term.  stem  vi 12:00  vi 11:59  stem  coo in the clo	enables o	data back	up with	low-			

SYMBOL				DESCRIPTION	
ENFMIF (D530)	Switch use	d to set the	station detec	ction method of follows:	
DISAMIF (D527)	ENFMIF (0419)	DISAMIF (0418)	BAND	Station detection method	ı
	1		FM	If counter and SD metho	od
		0	MW, LW	If counter and SD metho	od
	1	1	FM	If counter and SD metho	od
	'	'	MW, LW	SD method	
	0	0	FM	SD method	,
			MW, LW	If counter and SD metho	od
	0	1	FM	SD method	
			MW, LW	SD method	
	The switch  DISAME	Au Au pre	ito-preset-me ito-preset-me essed for 2-s	Description mory function is enabled. mory operation starts if econd or longer.	PSCAN key is
	1	Au	PSCAN AMEM	KeV is only for preset-s	scan-function.
PSCAN AMEMO	Auto-store-r Press this k If the key is If the key is When auto-r memory sca Preset-mem  (1) Preset-r The con preset n other th with the	nemory func- ey to use at s released w s pressed for store-memoran operates. ory-scan and nemory-scan tents of pre- nemories' co an preset men e preset men	uto—store-me ithin 2 secon r more than 2 y function is in d auto-store-r operation set memories entents are ca emory is being nory next to	hen the initialization diode swamory function when DISAN ands, preset-memory-scan oping seconds, auto-store-memory operate as follows.  The called for 5 seconds earlied in sequence, beginning any received when this key is received when this key is the one being received (for 5. This operation is described).	MEMO = 0. eration starts. bry operation starts. the key is presed, preset  ach automatically. The with M1 if something s pressed, or beginning pressed, or beginning example, beginning
	(Example	FM1 M1→M2- Something			ed
	The operation	ns on the MV	V and (MW1,	MW2) and LW band are same	e as on the FM band.

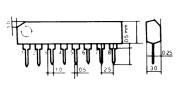
#### 7. ALTERNATE OR TRANSISTOR SWITCHES

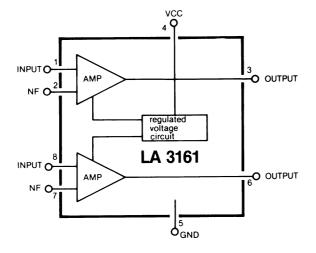
SYMBOL	DESCRIPTION								
TPSET (Q502)	Switch used to set the tape mode.  Valid only when the CE pin is high.  The tape mode can be set by turning on this switch while the CDSET switch is off.  For further information, see the 2. MODE TRANSITIION section.								
RDSET (Q501)	Switch used to set the radio mode.  Valid only when the CD pin is high. the radio mode can be set by turning on this switch while both the CDSET and TPSET switches are off. Fro further information, see the 2. MODE TRANSITION section. The RDON switch (diode switch) must be set to "O" when this switch is used.  RADIO key must not be used either.								
ST	Switch used to enable "ST" (stereo) display when in the radio mode. "ST" display on the LCD panel lights by turning on this switch.								
FF	Fast forward signal input switch when in the tape mode.  This switch turns on the tape transport direction indicator (⊲ ▷) depending on the RL switch status in the following ways:								
	FF	RL	indicato	r					
	0	0	<b>⋖</b> ⊳		⊳: off, ▶: on, ⊳: flashing (2Hz)				
		1			0: OFF, 1: ON				
	1	0			o. c., c.,				
	,	1 <							
M1 (TP1)  M2 (TP2)	This switch turns on the tape transport direction indicator (⊲ ▷) depending on the FF switch status.  For the indicator status, see the tape for FF switch.  The device, when powered on, comes up with M1 to M6 being loaded with the following frequencies to facilitate set adjustment:								
M3 (TP3)	Preset mem	1	Ma	Ma	N44	ME	MG		
	Band Area	M1	M2	M3	M4	M5	M6		
M4		FM1	1	87.7	92.3	96.3	105.9	98.5	
M5	Europe 1 Europe 2	MW	1	603	954 1098	1386 1530	522 522	522 522	
M6	Luiope 2	LW	144	155	208	256	144	144	
	U.S.A. 1, U.S.A U.S.A. 3	. 2 FM1		87.9 620	98.1 1010	105.1 1490	87.5 530	87.5 530	
	Australia, and N and Middle East		1	87.9 612	97.1 963	105.1 1395	87.5 531	87.5 531	
	Japan	FM1 MW	I .	76.4 603	85.6 954	76.0 1386	76.0 522	76.0 522	
	Central	FM1	87.5	87.9	97.1	105.1	87.5	87.5	
	South America	MW	1 520	565	760	1000	1400	520	
	M1 to M6 on the FM2, and VF bands, and MW2 band in except Europe 1 and Europe 2 are loaded with the lowest frequencies in effect in each area.  • In the tape mode  The initialization diode switches, ENTPK, KAMS, KMTL enable the M1 (TP1) to M6 keys to function as tape function keys. For the keys that can be shared, see the diode matrix description.  For the key operations, see the description of AMS, NR, and MEL, keys.								

### • LA1875M (AM/FM IF + MPX)

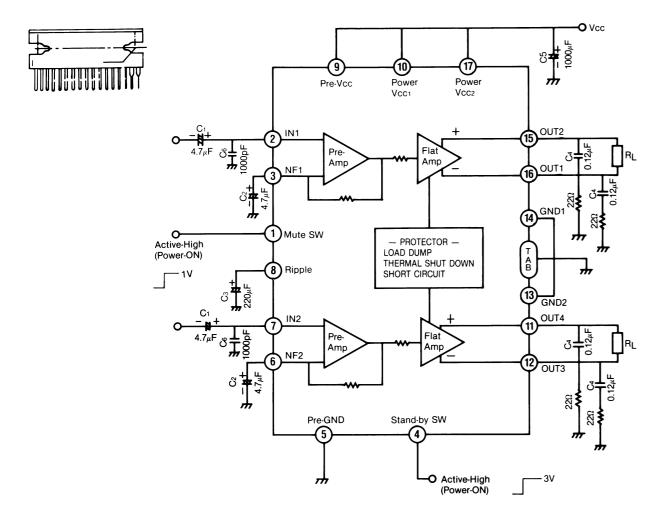


#### • LA3161 (Tape Pre-Amp.)



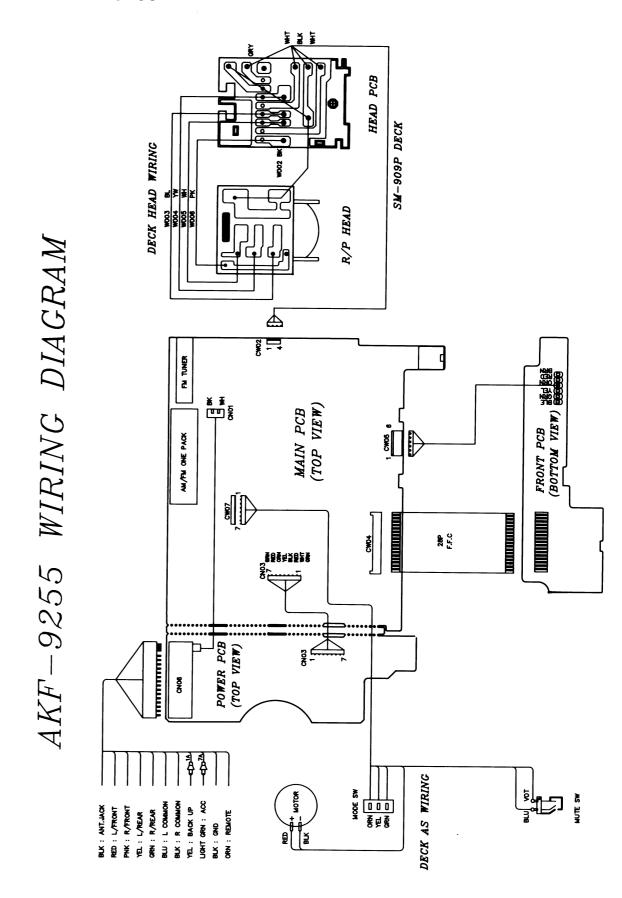


#### • KIA6210AH (Power Amp)



# 8. OVERALL WIRING DIAGRAM

## 8-1. AKF-9255



# 9. AKF-9255EV-INTE SCHEMATIC DIAGRAM

